AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-105

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-105.01
Dnepr/Cubesat Launch 17 April 2007

AMSAT News Service Bulletin 105.01
 From AMSAT HQ SILVER SPRING, MD.
April 15, 2007
To All RADIO AMATEURS
BID: $ANS-105.01

A Dnepr Cubesat launch is set for April 17, 2007 at 0646:35 UTC. The TLEs have been updated on the Cubesat website, www.cubesat.org. There will also be updates from Kosmotras regarding the status of the launch as soon as possible on the website and the discussion boards. The discussion board at http://polysat.calpoly.edu/irc/ will be available to allow satellite trackers to discuss what's been found.

Four-of-seven CubeSats will be using Amateur Radio frequencies and modes as follows:

CalPoly PolySat CP3
436.845MHz (1W) 1200bps FM AFSK AX.25 (Part-5 experimental license)
http://polysat.calpoly.edu/

CalPoly PolySat CP4
437.325MHz (1W) 1200bps FM AFSK AX.25
http://polysat.calpoly.edu/

CP4 will autonomously transmit a sensor snapshot once every two minutes while in orbit. This transmission will be on 437.325 MHz, at 1200bps FSK, using AX.25 packetized digital data. Please note that it is FSK, not AFSK, which will require you to set your radios to "single side band" (SSB) instead of "FM mode". This sensor snapshot is preceded by a six second CW preamble that can be decoded

as the satellite's call sign. CP4's autonomous beacon contains sensor
data that can be used to determine satellite's health status. A pro-
gram that can make sense of the binary data encoded in the AX.25
packets will be made available to community soon (probably through
the PolySat website). The information in this beacon would be useful
along with the recorded receive signal strength, should any anomalies
occur early in our mission. Operators are encouraged to try to capture
CP4's downlink and submit files to: polysat@gmail.com
[or polysat@atl.calpoly.edu].

University of Louisiana CAPE-1
435.245MHz (1W) 9600bps FM FSK AX.25 and CW telemetry
during opposite 30sec intervals using call sign K5USL
http://ulcape.org/wiki/Main_Page
http://ulcape.org/wiki/CAPE1_Telemetry
Forward received telemetry to jd.harrist@gmail.com

Universidad Sergio Arboleda (Colombia) Libertad-1
437.405MHz (400mw) 1200bps FM AFSK AX.25
http://www.usergioarboleda.edu.co/proyecto_espacial/index.htm
http://www.usergioarboleda.edu.co/proyecto_espacial/english_libertad.pdf

Also see http://cubesat.atl.calpoly.edu/ and
http://showcase.netins.net/web/wallio/CubeSat.htm for more information.

P-POD C (Preliminary) for 17Apr07 launch
1 xxxxxU xxxxxxxx 07107.29311609 .00000000 00000-0 00000-0 0 0000x
2 xxxxx 098.0870 182.3615 0084000 198.3918 339.9240 14.51600000 1x

Preliminary First Orbit+ Schedule
17Apr07 06:46:35UT Launch
07:02 CubeSat separation
07:08 AOS South Africa
07:52 AOS Hawaii USA
07:59 AOS CalPoly CA USA
08:01 AOS KL7UW Alaska USA
08:20 AOS Northern Europe
08:25 AOS Central Europe & UK
09:17 AOS ZL1AOX New Zealand
09:42 AOS KL7UW Alaska USA
10:53 AOS ZL1AOX New Zealand
11:16 AOS Japan
11:30 CP3/CP4 start transmitting
12:32 AOS ZL1AOX New Zealand
15:04 AOS WRPK Iowa USA

[ANS thanks Lori Brooks and Ralph, WRPK, for the above information]

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SB SAT @ AMSAT $ANS-105.02
Joint Response to EU Commission Galileo Green Paper Filed

AMSAT News Service Bulletin 105.02
From AMSAT HQ SILVER SPRING, MD.
April 15, 2007
To All RADIO AMATEURS
BID: $ANS-105.02

On Friday 6th April a joint response was submitted by RSGB, AMSAT-UK,
UK Microwave Group and the British Amateur Television Club to the
European Commission Green Paper on Satellite Navigation Applications.

The Galileo Global Positioning System, expected to be fully operational between 2010-12, will make use of 1260-1300 MHz. This is a key segment of the Amateur 23cm band used for ATV, Repeaters, Satellites, EME and weak signal terrestrial communications.

The response document can now be seen on the web at
http://www.g3psm.net/07_04_06_RSGB_Response_to_Galileo_Green_Paper.pdf

Galileo green paper on satellite navigation applications
http://www.southgatearc.org/news/december2006/galileo_green_paper.htm

Potential Interference To Galileo From 23cm Band Operations
http://www.southgatearc.org/articles/galileo.htm

[ANS thanks Trevor, M5AKA, for the above information]

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SB SAT @ AMSAT $ANS-105.03
AO-51 Software Upgrade Status

AMSAT News Service Bulletin 105.03
 From AMSAT HQ SILVER SPRING, MD.
April 15, 2007
To All RADIO AMATEURS
BID: $ANS-105.03

AMSAT Vice President of Operations, Drew Glasbrenner, KO4MA, provides the following update on the on-going software upgrade and testing efforts for
AO-51.

During the last round of testing and upgrades on AO-51, the Command Team discovered a problem with the BBS receiver interfering with the command system with either UHF transmitter above a certain power level. This problem had gone unsolved since launch until the relationship to the receiver was found. The good news is the problem goes away when that receiver is shut off.

The bad news is that particular receiver is the only user receiver the operating system allows to access the BBS. A rewrite of the core operating software is required to work around this issue, and there is exactly one person who can do this. For the mean time AO-51 will primarily be an analog mode satellite, until the fix is coded and tested thoroughly on the ground.

Sometime soon there will be a test of the new automatic scheduling software. The command stations will set up a series of about 10 mode changes over a few weeks, with the schedule announced in advance. When this happens we'll appreciate reports via the amsat-bb and ao51-modes lists. We may also run some power output tests, setting the downlink transmitters to different levels and asking for quantitative reception reports including a detailed description of the receiving station.

I would like to mention my support and appreciation for the http://oscar.dcarr.org/ website. It is near real time information, and updates whenever a new report is added. I absolutely LOVE this tool, and would like to thank the creator, and encourage it's continued use. If you noticed last week there were a few reports of AO-51 "not heard". In fact the satellite was transmitting, but the auto battery protection had tripped, reducing the downlink to 100 mw that morning in lieu of the normal ~500 mw. Later that day the auto protection tripped again, shutting TXb off. I noticed the reports and immediately called one of

the command stations, who was already aware of the problem. I bring this up because it is a great tool for users that we in Operations also use, and it seems to have several regular international contributors.

[ANS thanks Drew, KO4MA, for the above information]

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SB SAT @ AMSAT $ANS-105.04
RAFT and ANDE Update

AMSAT News Service Bulletin 105.04
 From AMSAT HQ SILVER SPRING, MD.
April 15, 2007
To All RADIO AMATEURS
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RAFT and ANDE are now coming over in the prime eveining hours.

In fact, if you look at RAFT you will see it is nearly sun synchronous, in that it is coming over nearly the same time every evening. That is about 7:45, 9:15 and 10:45 PM local sun daylight time at mid (40 deg) N latitudes.

PA3GUO reloaded RAFT settings and the packet-to-voice synthesizer is enabled. Anyone can turn it on, and then anyone can send APRS messages to "TALK" and it will speak the message.
See how on the page below:

http://www.ew.usna.edu/~bruninga/ande-raft-ops.html

Also, we need stations with good beams in the southern USA states from AZ to Georgia as volunteer command stations so that we can check out RAFT's radar receiver too.

RAFT is halfway through its life and will de-orbit by late July. Also, RAFT is only useable in the dark, so we don't have many more operating periods to operate this unique transponder.

Also, if anyone has lots of power on 10 meters and will use it to TX CW, we would like to activate the PSK-31 transponder and try again at hearing some signals.

[ANS thanks Bob, WB4APR, for the above information]

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SB SAT @ AMSAT $ANS-105.05
Call for Papers--2007 ARRL/TAPR Digital Communications Conference

AMSAT News Service Bulletin 105.05
 From AMSAT HQ SILVER SPRING, MD.
April 15, 2007
To All RADIO AMATEURS
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Technical papers are solicited for presentation at the 26th Annual ARRL and TAPR Digital Communications Conference to be held September 28-30, 2007 in Hartford, Connecticut. These papers will also be published in the Conference Proceedings (you do NOT need to attend the conference to have your paper included in the Proceedings). The submission deadline is July 31, 2007.
Please send papers to:

Maty Weinberg
ARRL
225 Main St
Newington, CT 06111

or you can make your submission via e-mail to: maty@arrl.org

Papers will be published exactly as submitted and authors will retain
all rights.

[ANS thanks Steve, WB8IMY, for the above information]

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SB SAT @ AMSAT $ANS-105.06
Satellite Shorts From All Over

AMSAT News Service Bulletin 105.06
>From AMSAT HQ SILVER SPRING, MD.
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+ Clint, K6LCS has posted his 4 page "How to Work AO-51 with an HT"
 tutorial at: http://homepage.mac.com/clintbradford.

+ Several reports have been received that Charles Simonyi, KE7KDP
 is on the air from the International Space Station and is making
 general QSOs with the ham radio community. On one pass Charles
 said, "I think amateur radio was the begining of the internet!
 And its still alive, I never thought I would do neither amateur
 radio or Space flights but both of them are lot of fun. Well I just
 want to congratulate the community for the great job they are doing
 in performing the charter as we learned about it, and thank everbody
 for helping me along. Its not easy for me and I do the best I can,
 so thanks a lot guys and I hope I can talk as many people as possible.

 An audio recording of Charles is available on Cor's website:
 http://pd0rkc.ontwikkel.nl

+ Plan ahead for JOTA weekend. "Around the World in 50 Hours will be
 the theme of this year's Scouting Jamboree On The Air. JOTA as it
 is better known, is an annual event in which about 500,000 Scouts
 and Scout Guides all over the world make contacts with each other by
 means of Amateur Radio. AMSAT supports this scouting activity each
 year by making its satellites available for JOTA contacts. This
 year's 50th JOTA will run from October 19th at 22:00 hours to
 October 21st at 24:00 hours your local time.

[ANS thanks everyone for the above information]

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SB SAT @ AMSAT $ANS-105.07
ARISS Status - 09 April 2007

AMSAT News Service Bulletin 105.07
 From AMSAT HQ SILVER SPRING, MD.
April 15, 2007
To All RADIO AMATEURS

BID: $ANS-105.07

1. St. Michael's Primary School Contact Successful

On Monday, April 2, students from St. Michaels Primary School in Daceyville, New South Wales, Australia participated in an Amateur Radio on the International Space Station (ARISS) contact. Sixteen students asked Michael Lopez-Alegria, KE5GTK, one question each as approximately 180 children in grades K-6 looked on. National television and newspapers covered the event.

2. Successful Contact with Glenden State School

Glenden State School in Queensland, Australia experienced a successful Amateur Radio on the International Space Station (ARISS) contact on Wednesday, April 4, 2007. Astronaut Sunita Williams, KD5PLB, answered questions from sixteen students and was answering the seventeenth question as the ISS went over the horizon. Approximately 400 teachers, students and others attended the event. A local news crew was there to film the event, and two radio interviews were held, one before the contact and one immediately after. Another local radio station publicized the event during the week prior to the contact. The audio from this contact was fed into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers. Among the eight countries that connected (a total of fifteen were made) were Macedonia, India and Ireland.

3. Upcoming School Contacts

Students from Redmond High School in Redmond, Washington, Charles Simonyi's home town, plan to experience an Amateur Radio on the International Space Station (ARISS) contact on Monday, April 16 at 21:17 UTC via the telebridge station ON4ISS in Belgium. The ARISS EchoLink and IRLP teams will feed the audio from this contact into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers, and into the IRLP Discovery Reflector 9010.' The contact will also be webcast courtesy of Verizon Conferencing.

An Amateur Radio on the International Space Station (ARISS) contact has been slated for Tuesday, April 17 at 18:35 UTC, between the Kursk Technical University in Kursk, Russia and Commander Fyodor N. Yurchikhin, RN3FI. The school's radio club, RW3WWW, was founded in 1965 and is a member of SPORADIC ' the Kursk amateur radio regional club and of the International Amateur Radio Union Region 1 Soyuz Radiolyubitelei Rossii (SRR).

An Amateur Radio on the International Space Station (ARISS) contact has been planned for Cedar Point Elementary School in Bristow, Virginia on Tuesday, April 17 at19:05 UTC via the telebridge station VK5ZAI in Australia. A science encore program will be employed to teach amateur radio and communication technology to students in grades K-5. This contact will be held in conjunction with Space Week activities which will include a visit from an astronaut, science and technology of hot air ballooning, a Starlab Planetarium, and a Space Traveler trailer with 20 hands on activities related to traveling and living in space and space exploration. This contact is planned for flight participant Charles Simonyi, KE7KDP. The audio from this contact will be fed into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers, and into the IRLP Discovery Reflector 9010. The contact will also be webcast courtesy of Verizon Conferencing.

4. NA1SS Awarded JARL Award

On Monday, April 2, the Japan Amateur Radio Relay League (JARL)
issued the All Japan Districts Award to the International Space Station,
NA1SS. Astronauts using the station's callsign NA1SS have contacted a
school in all ten of Japan's amateur radio call areas.

5. ARRL Article on Expedition 15 Crew

The American Radio Relay League (ARRL) ran an article on the new ISS
crew. "Fourth US Civilian Space Traveler, Expedition 15 ISS Crew Launch
April 7" may be viewed on:
http://www.arrl.org/news/stories/2007/04/03/100/?nc=1

[ANS thanks Carol, KB3LKI, for the above information]

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In addition to regular membership, AMSAT offers membership in
the President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive additional
benefits. Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
Lee McLamb, KU4OS